NOVEMBER 1989

$2.50

H-SCOOP

#116

The double density newsletter for Heath/Zenith computer support

BITS & PIECES

This newsletter will be over taken this month by Zenith news. Between the sale by Zenith Electronics Corporation of Zenith Data Systems, Veritechnology, and the Heath stores to French BULL, and the introduction of several different computers there is much information to sort through.

ZENITH SELLS ZDS TO BULL

From a Zenith News Release: Oct. 2, 1989--In an action designed to bring competitive benefits to both companies, Zenith Electronics Corporation of Glenview, Ill., and Groupe Bull, of Paris, France, today signed a definite agreement under which Bull will purchase Zenith's computer business (the Zenith Computer Group, which includes Zenith Data Systems and Heath/Zenith).

The transaction will allow Zenith to position itself for further growth and industry leadership in its original core business, consumer electronics, while Bull improves its position in the microcomputer industry by acquiring a world-class company.

Under the terms of the agreement, the exact purchase price will be based on the net asset value of the computer business, as defined in the contract, at the time of closing. Based on the balance sheet as of the end of July, 1989, the purchase price would be $635 million; however, it is expected that the net asset value, and thus the purchase price, will be lower as a result of inventory reductions through the date of closing. The closing is expected to take place by year-end.

Jerry K. Pearlman, Zenith chairman, president and chief executive officer, said, "This agreement represents a major part of our strategy to enhance the long-term value of Zenith for our stockholders. Zenith will emerge as a conservatively financed company better prepared to capitalize on our strengths in consumer electronics and display technologies."

Francis Lorentz, chairman and chief executive officer of Groupe Bull, said, "Microcomputers are an essential element in our long-term strategy to enhance our position as one of the world's leading information systems suppliers. The acquisition of the Zenith Computer Group will move us into the first tier of the microcomputer industry, and will open new growth potential on both sides of the Atlantic. It further demonstrates Bull's commitment to the U.S. With complementary markets, products, plants and R&D resources, we make a perfect fit."

Zenith's Board of Directors has unanimously approved the transaction. Pearlman said, "The company has been offered a full and fair price for the computer business. The transaction will mean that our balance sheet will be strengthened significantly and our heavy debt burden will be lifted."

Pearlman and Zenith expects to report a net gain of approximately $22 million from the transaction after taxes and expenses. Zenith plans to repay short-term obligations and to retire a portion of long-term debt. "The remaining proceeds will be available for appropriate investments in new consumer electronics and component technologies, particularly high-definition television (HDTV) and advanced high-resolution color displays," he said.

Upon the completion of the transaction, Bull's world-wide revenues will grow to nearly $7 billion, and Bull will more than double its presence in the United States to a revenue level exceeding $2 billion.

In a continuation and enhancement of the existing close relationships between Bull and Zenith, the Zenith Computer Group will remain a long-term customer for Zenith's power supplies and monitors, including its "flat tension mask" monitor.

Both companies anticipate and will work to assure a smooth transition for employees and customers. The Zenith Computer Group will remain U.S.-based, with its existing management team, sales and corporate headquarters in the Chicago area, and primary manufacturing and engineering operations in St. Joseph, Michigan the companies said.

Group Bull, with world headquarters in Paris and a majority investment in Bull HN Information Systems Inc.--15 percent owned by NEC Corp. and 15.6 percent by Honeywell Inc.--based in the Boston area and headed by Roland D. Pampel, is one of the world's top 10 suppliers of information systems and solutions.

The Zenith dealers received a letter from John Frank concerning this transaction. I print parts of this here:

Dear ZDS Reseller:

Our parent company, Zenith Electronics Corporation, announced today that it has signed a definitive agreement to sell its computer business, including Zenith Data Systems, to Groupe Bull. The transaction, explained in the enclosed news release, will combine the strengths of ZDS and Bull to enhance our competitiveness. And that will bring benefits to you.

Bull's strengths in integrated systems and support of open standards will help us serve you better. We also want you to know that ZDS' strengths in government, education, retail and OEMs are complementary to Bull's vertical marketing efforts.

We anticipate and will work to assure a smooth transition for our customers. ZDS will remain U.S.-based, with headquarters in the Chicago area and primary engineering and manufacturing operations in St. Joseph, Mich. Our existing management team, as well as our sales, marketing, R&D and production staff and remain basically intact.

Gleaned from other bits and pieces of Zenith Fact Sheets, other news releases, I'll present some highlights of Zenith's history, some info on Groupe Bull, and my two cents worth.

ZENITH COMPUTER GROUP

The Computer Group of Zenith Electronics Corporation, based in Glenview, Ill., consists of four wholly owned Zenith subsidiaries: Zenith Data Systems Corporation, Heath Company, Veritechnology Electronics Corporation and Zenith/Inteq Incorporated. The group's primary engineering and manufacturing facilities are in St.Joseph, Mich. Of Zenith's 37,000 employees worldwide, about 4,000 are part of the Computer Group. Zenith's computer products revenues wee about $1.4 billion in 1988.

Zenith's worldwide shipments of personal computers (PCs) that run on the MS-DOS operating system surpassed those by any

company except IBM in 1988, and U.S. shipments of portable PCs exceeded all others', according to independent market research. The Computer Group's president is Carl A. Michelotti.

Heath Company

Founded in 1918, Heath is a world-famous supplier of electronic kits to hobbyists. Based in St. Joseph, Mich., the company offers a complete line of kit and fully assembled electronics products (including PCs), as well as home security systems, educational products, a voice-controlled PC and robot system for the disabled, and computer-based instruments for industry. Zenith acquired Heath in 1979 from Schlumberger Ltd. The president of Heath is William E. Johnson.

Veritechnology Electronics Corporation

Veritechnology Electronics Corporation (VEC) operates the chain of Heath/Zenith Computers & Electronics centers, considered one of the nation's top 10 computer retailers. With revenues of more than $200 million in 1988, VEC's chain of 70 North American stores features the full ZDS and Apple lines, plus Heathkit and other Heath Company products. Joseph Schulte is VEC's president.

Zenith/Inteq

Based in Herndon, VA., Zenith/Inteq develops and modifies personal computers and related peripherals, most of which are designed to meet the U.S. government's high-security "Tempest" specifications. Zenith acquired Inteq in 1985. Zenith/Inteq's president is Hoy Chang.

ZENITH ELECTRONICS CORPORATION

Zenith Electronics Corporation is the only U.S.-owned integrated color television and picture tube manufacturer and a U.S. leader in high-definition television (HDTV) technologies.

A diversified electronics company, Zenith develops, manufactures and markets color television sets, cable products and related consumer electronics products, high-technology electronic components for other manufacturers, and portable and desktop personal computers. With 37,000 employees worldwide, the company is based in Glenview, Ill.

The Early Years

Zenith got its start in 1918 when two wireless-radio enthusiasts set up a "factory" on a kitchen table in Chicago and began making radio equipment for other amateurs. By the early 1920's, the infant radio industry began to grow as did the business which sold radios under the name "Z-Nith" (the origin of the Zenith trademark, derived from the call letters of the founders' amateur radio station, 9ZN). In 1923, Zenith Radio Corporation was incorporated in Illinois.

The young company's early accomplishments included the world's first portable radio (1924), the first home receivers to operate on household current (1926), and the first automatic pushbutton radio tuning (1927, the year the slogan, "The quality goes in before the name goes on," was first used).

In 1929, Zenith was first listed on the New York Stock Exchange under the symbol "ZE."

Founded on radio engineering, Zenith soon became a leader in other consumer electronics developments, such as the first all-electric television station (1939), the first FM radio station in the Midwest (1940) and the world's first subscription television system (1947).

Zenith pioneered AM and FM radio broadcasting (including the invention of the stereo FM radio broadcast system, authorized by the FCC in 1961 and still in use worldwide) and played a key role in developing broadcast standards for B&W and color TV.

[I understand Zenith also came out with the first "walkman", a radio to wear around the neck with headphones. Somebody there decided to kill the product, and it never got to market. Sony later came out with the same concept and made millions on it - perfect example of Zenith's top heavy corporate management decision ability.]

The '80s

Building on Heath's entry into personal computers, Zenith formed its computer-products subsidiary, Zenith Data Systems, in 1980.

Reflecting the strong growth of Zenith Data Systems and other newer businesses, the company changed its name from "Zenith Radio Corporation" to "Zenith Electronics Corporation" in 1984.

High-Definition Television

Today, building on the company's tradition of technical excellence, Zenith is a leader in the development of HDTV broadcast and display technologies.

The company's "Spectrum Compatible HDTV System," first unveiled in September 1988, is the only proposed HDTV broadcast technology that meets all the key criteria of performance, coexistence with existing TV technology and efficient use of the TV broadcast spectrum. In 1989, Zenith began initial research on building large-screen, low-cost versions of the FTM display for HDTV applications.

[HDTV is the future in television, giving picture quality comparable to a movie house. Unfortunately, the U.S. has waited too long and are far behind the Japanese. However because of the restrictions and conditions placed on the compatibility of HDTV with regular TV, Zenith may have a chance. Either way you look at it, Japan will be viewing this new TV marvel far before the U.S. ever will. Consultant George Stalk with the Boston Consulting Group says "The chances are 95% that they'll [Zenith] fail." While the Japanese and French competitors each spent about $1 billion on HDTV research last year, Zenith only spent $100 million. It will be very difficult to catch up, and it may well be the demise of Zenith. What they should have done was get rid of the TV business, strengthen the computer business, and then get rid of most of their corporate management people and started over.]

GROUPE BULL BACKGROUNDER

Introduction

Groupe Bull is one of the world's ten leading suppliers of information systems. Founded in Europe more than 50 years ago, Groupe Bull today is a worldwide organization, consolidating two companies - Bull S.A., based in Europe, and Bull HN, based in the U.S. The group is the leading European-based supplier of integrated information systems.

Bull Growth Worldwide

A pioneer in data processing, Bull began as Egli Bull in 1931, manufacturing tabulating machines designed by Fredrik Rosing Bull, an engineer at a Norwegian insurance company. Right from the outset, the company distributed its products throughout Europe. The company's evolution tracked the growth of the data processing market. Bull introduced one of the world's first electronic computers in 1951. By the mid 1960's, Bull was Europe's largest and the world's second-largest computer manufacturer.

During the 1970's, Bull's sales were strong, revenues increased and the company (then called Cii-Honeywell Bull) consistently

held the second market-share position in France (behind IBM). During the late '70's and early '80's, however, growth slowed and losses mounted. In 1982, the French state became Bull's majority shareholder and now owns about 92 percent of the share capital of Compagnie des Machines Bull (CMB), the holding company for all of Groupe Bull's holdings. The remaining eight percent of CMB stock is publicly traded on nine European stock exchanges. As Chairman of the Board of CMB, Francis Lorentz bears fiduciary responsibility to the shareholders.

Bull HN Information Systems Inc. is the outgrowth of Honeywell Bull Inc., the company jointly created by Groupe Bull, Honeywell Inc. and NEC Corp. in March, 1987 from the former Honeywell Information Systems Division. Bull HN's headquarters moved form Minneapolis, Minnesota to Billerica, Massachusetts in 1988. Its name became Bull HN Information Systems Inc. in January, 1989, after CMB acquired a majority shareholding. CMB currently holds 69.4 percent of Bull HN, Honeywell Inc. holds 15.6 percent and NEC Corp. hold 15 percent.

[It's interesting to note that Groupe Bull made a $50.9 million profit in 1985, with $5.3 billion in net revenues. This is indeed a very strong company.]

ZENITH COMPUTER GROUP AND GROUPE BULL: LONG-TERM COMPETITIVENESS THROUGH COMPLEMENTARY RESOURCES

"Bull is a multibillion-dollar global corporation focused solely on the information systems business, and the Zenith Computer Group's long-term value will be enhanced by a combination with such a world-class player. At the same time, our stockholders will be able to realize a significant portion of that greater long-term value today, as the purchase price reflects," Pearlman said.

Since Zenith acquired the Heath Company from Schlumberger Ltd. (for $60 million) in 1979 and established Zenith Data Systems (ZDS), Zenith management has built its microcomputer business from $10 million in 1980 into a billion-dollar-plus operation through technical excellence and marketing expertise in selected channels. The Zenith Computer Group includes ZDS, Heath Company and Veritechnology Electronics Corporation.

Over the same period, Bull has become Europe's leading supplier of distributed information systems, and has established a strong base in North America through Bull HN Information Systems Inc., headquartered in Billerica, Mass. -- and headed by Roland D. Pampel, as president and CEO.

Worldwide Resources

The Zenith Computer Group's U.S.-based and Bull's European-based microcomputer operations fit well together, Lorentz said, and combining the two will enhance the worldwide competitiveness--and help realize more fully the potential of the production and technical resources--of both.

Lorentz said the combination means that: * Bull will offer customers a complete product line, ranging from large mainframes to mid-range systems, and from laptops to powerful desktops; * Bull will bring new systems expertise and market opportunities to the Zenith Computer Group's North American business; * Bull will open new growth opportunities for the Zenith Computer Group in Europe; * Bull will gain increased volumes to compete more effectively; and * Bull will significantly increase the share of its revenue coming from value- added resellers, retailers and other indirect channels.

Bull's worldwide production capabilities will be enhanced by Zenith Data Systems, especially the ZDS manufacturing facility in St. Joseph, Mich. At the same time, Bull's plant in Villeneuve d'Ascq, France, will produce ZDS products for Europe. ZDS products will also continue to be produced on a contract basis in Zenith Electronics Corporation's Kells, Ireland, plant.

Lorentz also said that Bull will have the opportunity to create a worldwide network of R&D operations, including the new Zenith Computer Group Technology Center in St. Joseph, Mich., and Bull's labs in Massy, France.

Commenting, Lee Hart writes: I think this will be good for Heath and its customers. Interdivisional squabbles and office politics became a real problem between Heath and Zenith, and cost the company many talented people. It was destroying Heath's reputation for quality and service as well. Bull has a chance to "wipe the slate clean", and make a fresh start. And since Bull is not in any particular financial bind, Heath's profits can be plowed back into new product development again, instead of subsidizing Zenith's losses in consumer electronics.

Zenith on the other hand, seems to be losing their only profitable divisions. They get desperately needed cash, but will use much of it for creditors and big dividends (to placate their new corporate-raider board members). Hopefully, they will make a substantial investment in R&D for HDTV and other new technologies. Even still, I wonder how they will survive the next few years without massive losses. Zenith may be destined to become just another foreign-owned nameplate for imported TVs.

Now my comments: I think this will be a good move. As many of you know, especially those with Heath in the earlier days when Schlumberger Ltd., another French company, owned Heath, comradeship and support were at its peak. There were support lines open for all the major product lines, including computer hardware and software. Manuals were excellent and detailed, and were included with the kits you purchased. If you purchased assembled products, manuals were easily obtained, and were low cost. If you had problems with a product, your "local" store or one of the support lines was sure to help you out. You purchased a computer and there was lots of software bundled with it to get you going.

Ever since Zenith took over, things started going downhill. They cut out the tech support lines, and the manuals became thinner. The only software one now gets with a computer is the operating system. Most Zenith salespeople and even most of the technicians are partially knowledgeable on the current computer line. Mention an H89 or a Z100 and they don't even know what you are talking about, much less be able to help you or repair one for you.

And what about the H/Z stores? They have become almost a joke, with most of them stocking very little if any Heath/Zenith computers, and few kits. Everything "must be special ordered". They push Apple computers more than their own! More top notch corporate strategy?

Zenith's policy of 50% or more off retail price on computers and associated products to government and universities sure got them lots of business, but at the expense of not making a profit, and making all the rest of us absorb the slack in profits. This is one reason why Zenith computers are among the highest price computers on the market, and why more and more users once faithful to the Heath and/or Zenith name now have looked elsewhere for the computers. I have had very many individuals and corporate clients in the past years tell me they appreciate my newsletter and/or my services, but will no longer continue with either. The reason in every instance has not been with myself, my newsletter or my services, but with Zenith, their attitude, prices, etc. I've known many Zenith dealers who have dropped Zenith for one reason or another. Zenith/dealer relationship has never been strong, and now with the government and university contracts expired, they need to depend on dealers more than ever. I could go on and on, but I'll stop the complaints there.

I feel Bull with their financial resources, and commitment will breathe new life into the Zenith computer end. After all, you don't go out making millions of dollars profit each year by being corporate stupid and treating end users, customers and dealers

like they are doing you a favor by selling you their product. I think back to the days of Schlumberger, and am thinking the French know how to do things better. I feel very positive about this move because things certainly couldn't have gotten much worse. I anticipate an upward swing in new developments, after sales support, and possibly better pricing positioning in the marketplace.

I am hoping that Bull will eventually get rid of some of the Zenith dead weight and install some management who know how to run a business. I fully intend to write a long detailed letter to Bull about my experiences with Zenith and the problems I have went through as a dealer and an end user. Names will be thrown out at that time. I am not expecting overnight changes, but hopefully we'll see some gradual improvements.

ZENITH INTRODUCES NEW COMPUTERS

The following information was taken from ZDS NEWS RELEASE bulletins and compiled in a brief format for your information. I will add comments and clarifications when appropriate.

Z-386 SX PRODUCT ANNOUNCEMENT

In the past, users had to pay a premium for 386 power. A cost effective means to 386 processing capabilities is now available, Zenith Data Systems'[BULL?] new Z-386 SX.

Zenith Data Systems, through innovative system design, has developed an Intel 386SX based computer system that rivals 80386-based systems processing power. The Z-386 SX provides both high expandability and the ability to run 386-based software in a cabinet footprint no larger than most monitors.

FEATURE HIGHLIGHTS

* 16 MHz 386SX microprocessor, * Support for 80387SX co-processor, * 1M byte RAM standard expandable to 8M byte on system board, * Cache memory standard, * Four open slots, * 16-bit VGA video card supporting EGA, CGA, MDA, and Hercules video standards, * 3.5" 1.4M byte floppy disk drive, * AT-type IDE hard disks: -40M byte (23ms), -80M byte (19ms), * System board integrates an IDE (AT-type) drive host adapter and floppy disk drive controller [watch out for this one? - seems like I've heard about that before with their Z-159 design which they promptly discontinued!-ed], * 16-bit integrated I/O controller: -Two 9-pin serial ports, -One 25-pin parallel port, * Zenith enhanced 101-key keyboard, * MS-DOS 3.3 Plus, * MS-WINDOWS/386 (hard disk drive models only), * One year carry-in warranty.

SYSTEM MODEL NUMBERS

The Z-386 SX is available in three configurations.

MODEL# Z-386 SX Model 1 **DESCRIPTION:** Basic model as described above without any hard drive.
MODEL# Z-386 SX Model 40 **DESCRIPTION:** 40M byte 28ms IDE HDD with embedded 1:1 interleaving controller, and other features ad described above, plus MS-Windows/386.
MODEL# Z-386 SX Model 80 **DESCRIPTION:** 80M byte 19ms IDE HDD with embedded 1:1 interleaving controller, and MS-Windows/386.

SYSTEM ARCHITECTURE
or
WHAT IS AN -SX?

The 386SX microprocessor is a cost reduced version of the 80386 microprocessor. Like the 80386, the 386SX provides 32-bit internal processing. The 386SX is limited to 16-bit bus traffic and 24 address lines; this differs from the 80386 which has 32-bit address and data buses. These concessions, along with lower materials costs, surface mount leads, and a higher yield ratio translates into a less expensive micro-processor capable of running 80386-based software. To a user, 386SX based computers provide the ability to run 32-bit software at a much lower cost than 80386-based computers. [And also somewhat slower, especially in memory, disk I/O, and/or video intensive! It's not that bad, however. Current disk I/O cards and video cards are at best 16-bit cards anyway. So even with a standard 80386, the disk I/O and video only operate with 16 data bits anyway. As for addressing, until you get high in the megamemory, you really do not use the extra addressing bits. The only real bottleneck by comparison will be memory I/O which actually is 32 data bits on the 80386 systems. - ed]

In comparison to the 16MHz 80386 processor, the 386SX chip provides 75% of the performance speed with 32-bit software, and 90% of the performance speed with 16-bit software. A system speed is dependent on more than raw processor speed. Video data width and video memory speed; system RAM speed, use of cache and caching scheme; hard disk drive average access time, data transfer rate, and interleave ratio; in addition to the use of slushware and other system speed enhancing methods all affect the speed of the system. The Z-386 SX is engineered to maximize the speed and capabilities of the 386SX processor while maintaining a favorable cost/performance ratio.

MEMORY SUBSYSTEM 1M byte (four banks of 256K byte SIMMs) of system memory is standard in all models of the Z-386 SX. Up to 5M byte of memory can be installed on the system board using the optional 2M byte SIMM memory upgrades (Model number: Z-605-1) [presently $1299 Zenith price for minimum of 2 megs!!! -ed]. To increase system memory beyond 5M byte on the system board, the original 1M byte of memory (four 256K byte SIMMs) must be removed from the SIMM sockets. The addition of one Z-605-1 2M byte memory upgrade will increase system memory to 6M byte, a second Z-605-1 will increase memory to 8M byte. The memory located on the system board operates at an effective zero wait-states.

The system supports a maximum of 16M byte of memory. Memory above the 5M byte or 8M byte on the system board can be added using third party memory cards in any of the four open expansion slots.

SYSTEM CACHE MEMORY In order to maintain effective zero wait-states, Zenith Data Systems has incorporated a fast cache in the Z-386 SX. Zenith Data Systems developed our own cache controller featuring a 16-level deep write queue which improves system performance on memory writes. Writes to system memory are stored until the processor is idle; once idle, the CPU clears the write buffer and updates system memory. If sixteen writes have been stores in the queue, the processor must suspend all tasks and write to the system memory in order to maintain system memory integrity.

The posted write technique allows the system to hold 16 times more data than competitor's systems in cache before the system must update memory. This creates a more efficient environment and lessens the amount of wait-states required to write to system memory.

SYSTEM BOARD All system hardware components, excluding video controller, are located on the system board. These components include: CPU, memory, I/O, floppy disk drive controller, and hard disk drive interface.

The backplane is mounted perpendicular to the system board. Five 8/16-bit ISA slots are found in the Z-386 SX. Slot number one is located closest to the system board; slot number five is located furthest from the system board. A VGA video board is provided in slot number two.

16-BIT VGA VIDEO CARD A 16-bit fast VGA card is standard in all configurations of the Z-386 SX. The video card provides VGA

BIOS and hardware level compatibility and supports the EGA, CGA, MDA, and Hercules video standards.

Video performance is enhanced with Zenith Data Systems' **"Slushware"** technique whereby slow 8-bit video ROM is copied into fast 16-bit RAM at system boot-up.

MASS STORAGE There are two hard disk drive configurations of the Z-386 SX. Both configurations incorporate IDE [which means when you want to change or upgrade them you will pay a very high premium, if you can even obtain them! -ed] drives with an embedded controller and provide 1:1 interleaving. An interface is provided on the system board for the hard disk drive cable. Hard disk drive configurations are as follows:
Model 40 - 40M byte IDE with 28ms average access time
Model 80 - 80M byte IDE with 19ms average access time.

All configurations include a 1.4M byte 3.5" floppy disk drive. The floppy disk drive controller is located on the system board. An optional 5.25" or 3.5" floppy disk drive is available for use internally to the system.

The system supports three internal devices and provides the circuitry for one IDE hard disk drive and up to two floppy disk drives. Bezel openings are provided for one 3.5" device and one 5.25" or 3.5" device.

Jumpers are provided to separately disable the hard disk drive interface and the floppy disk drive controller. Once disabled, a SCSI, ESDI, or ST-506 controller and mass storage devices may be used with the system.

POWER SUPPLY The 150 watt power supply provides ample power for a fully configured system and also incorporates 115/230V switch-mode capability for international operation.

SYSTEM SOFTWARE MS-DOS 3.3 PLUS is standard on all Z-386 SX; MS-WINDOWS/386 is standard for all hard disk drive systems. MS-OS/2 Version 1.1 with Presentation Manager is also available as a software option.

ZENITH INTRODUCES NEW LAPTOPS

SUPERSPORT SX PRODUCT ANNOUNCEMENT

PRODUCT OVERVIEW

Zenith Data Systems, is introducing an innovative portable solution - **"the SupersPort SX"** - the first full-function, battery operated 80386-SX portable computer with VGA video. The SupersPort SX brings portable computing into the 1990s with cost effective 32-bit processing.

The SupersPort SX comes standard with VGA video, Zenith Data Systems' acclaimed Page-White screen, and a rapid charge (three hour charge time) battery. The performance advantages of the 80386 architecture are clearly understood. And, as software manufactures continue to move their applications towards 32-bit performance, the SupersPort SX clearly establishes a cost effective solution today, with a link to tomorrow's application solutions.

SUPERSPORT SX HIGHLIGHTS

* 16MHz 80386-SX microprocessor, * 1M byte RAM standard, expandable to 8M byte, * 40M byte and 100M byte hard disk drives available, * 1.4 byte floppy disk drive, * Page White screen, * VGA capabilities on LCD, * Co-processor socket, * 79-key keyboard, * Slot for optional 300/1200/2400 bps modem, * I/O interfaces standard: -9-pin RS232C AT compatible serial port, -Centronics compatible parallel port, -RGBi port (VGA out), -External floppy disk port, -Expansion bus connection, * Rapid charge battery for 3 hour charge time, 4.7 pounds, * 12.2" wide x 12.2" deep x 3.4" high, * 12.1 pounds without battery, * Attached handle for easy carry, * One year carry-in warranty, * IQ warranty options, such as overnight, * MS-DOS 3.3 PLUS.

SYSTEM SPOT LIGHT

CPU Intel 80386-SX microprocessor, * 16 or 8MHz, * Keyboard toggles or setup screen menu for speed selection.

RAM MEMORY 1M byte of RAM standard, * Expandable to 8M byte with 2M byte memory upgrades.

ROM 64K byte ROM for BIOS, including monitor ROM and real-time clock/calendar

SOFTWARE MS-DOS 3.3+ standard with system, * Real-time clock/calendar in ROM.

VIDEO DISPLAY Page White screen which gives clear and sharp black characters on a white background, * 80 characters x 25 lines, 10 inch diagonal, * 640 x 480 VGA compatible, * 16 shades of gray for color emulation, * Fluorescent backlighting, * 180 degree tilt, * Separate brightness and contrast controls.

KEYBOARD 79-key keyboard, * 101/102-key keyboard compatibility.

INPUT/OUTPUT PORTS Serial: 9-pin male IBM-compatible serial port, * Parallel: 25-pin female Centronics-compatible printer port (bi-directional), * RGBi: VGA-level color monitor connection, * External floppy disk drive: Miniaturized 20-pin floppy disk drive connector, * Slot for optional 2400 bps Hayes-compatible modem with RJ11 connector.

POWER Detachable/rechargeable 48WHr NiCad battery pack, 4.7 pounds, * Rapid charge battery, 3 hours recharge time, * External autosensing 110/220 VAC, 60/50 Hz adapter/charger.

WARRANTY One year limited carry-in warranty, * Executive warranty options available.

SupersPort SX Model 40 - SupersPort SX with 40M byte hard disk drive.
SupersPort SX Model 100 - SupersPort SX with 100M byte hard disk drive

NEW OPTIONS
ZA-180-85 **Battery pack,** 48WHr NiCad, rapid charge
CB-31-6 **Diagnostic,** portable series
ZA-3040-EB **Expansion chassis,** 3-slot box with cable
ZA-180-86 **Memory upgrade,** 2M byte
ZA-180-87 **Memory upgrade,** 2M byte to reach above 5M byte
ZA-3700-CI **Numeric co-processor,** 80387-SX.

CURRENT OPTIONS
ZA-181-7 **Adapter,** automobile cigarette lighter
ZA-180-69 **Battery charger,** external
ZA-180-62 **Carrying case,** with pocket
ZSS-180-54 **Drive,** lightweight 5.25" external floppy with cable and adapter
ZKB-2 **Keyboard,** 101-key
ZA-181-24 **Modem,** 300/1200/2400 bps asynchronous
ZCM-1490-Z **Monitor,** FTM color VGA
TS-81-02 **Software,** LAP-LINK PLUS data transfer kit.

SYSTEM ARCHITECTURE

Intelligent Power Management In april 1988, ZDS introduced Intelligent Power Management techniques along with a new generation of portable computers. These techniques allows users to extend battery life by configuring the system dynamically or within a setup session. SupersPort SX's power management characteristics include: * **Display:** from the setup screen, users

can set backlight timeouts for typical use under either battery or AC power. Brightness and contrast controls allow adjustments for power conservation. * **Mass storage:** from the setup screen, the hard disk drive can be set for power down after a given period of inactivity. * **Microprocessor:** 16MHz and 8MHz dual speeds available. Users can conserve power at the lower speed. Speeds can be selected from either the keyboard dynamically or from the setup screen. * **Ports:** from the setup screen, users can enable or disable the ports, thus rechanneling the unused power flowing to power the ports into powering the CPU.

MICROPROCESSOR SupersPort SX is designed around the Intel 80386-SX microprocessor. It runs at 16MHz, but can be toggled down to 8MHz for clock dependent software or for saving power. The system also comes standard with a co-processor socket.

POWER SUPPLIES The system includes an autosensing adapter/charger with detachable AC cable. This will switch automatically between 110VAC or 220VAC operation.

In addition, a detachable 48WHr rechargeable NiCad battery pack is included with the system. Battery life will vary depending heavily on backlight usage, disk access, and on-board memory usage. Battery life expectancy should be between 3-4 hours, and can be extended by use of the Intelligent Power Management capabilities within the Monitor ROM.

The battery is a rapid charge NiCad with a three hour charge cycle and can be recharged either connected or detached from the system.

Another beneficial feature of battery operation is the ability of the system to automatically switch from AC to DC power in case of a power failure while operating under AC power. This gives the user a "built-in" uninterruptible power supply.

SUPERSPORT 286e

PRODUCT OVERVIEW

SupersPort 286e adds register-level VGA video and other enhancements to the market-leading 80286-based laptop computer. The SupersPort 286e displays register-level VGA video on the new Bright Mode screen which is a fluorescent-backlit black-on-white liquid crystal display (LCD) with contrast ratios rivaling those of CRT monitors.

SupersPort 286e also benefits from incorporation of the 16-bit video interface originally incorporated in ZDS portable products in April of 1988. 16-bit video interface allows fast refresh of the screen, thus increasing the speed with which graphics and text are updated on the screen.

The new video technology in SupersPort 286e is complemented by the preinstallation of the expansion bus port as a standard port in the laptop. Buyers would now simply order the optional expansion box under ZDS model number ZA-3040-EB.

Another performance enhancement in SupersPort 286e is the use of one-to-one (1:1) interleave hard disk drives from Conner Peripherals as pioneered by ZDS in the April 1988 introduction. This 1:1 interleave drive replaces the former 3:1 interleave Conner Peripherals hard disk drive.

With both the 16-bit video interface and the 1:1 interleave hard disk drives, users will see an increase in performance over the original SupersPort 286.

SUPERSPORT 286e PORTABLE HIGHLIGHTS

12/6MHz 80286 microprocessor with zero wait states, * 1M byte memory, * 20M byte or 40M byte 1:1 interleave Power-Miser drives, * 1.44M byte/720K byte 3.5" floppy disk drive, * Bright Mode screen, * Register-level VGA, * 16-bit video interface, * I/O interfaces that are standard: -9-pin RS232C AT-compatible serial port, -Centronics-compatible parallel port, -RGBi port, -External FDD port, -Expansion bus out (XT-level). * 12.2" wide x 12.2" deep x 3.35" high (without battery), * 11.6 pounds (without battery), * One-year carry-in warranty, * IQ Warranty options, such as overnight, * NiCad battery and 110/220VAC adapter/charger, * MS-DOS 3.3+.

SYSTEM MODEL NUMBERS

SupersPort 286e Model 20 - SupersPort 286e with 20M byte (28ms) hard disk drive
SupersPort 286e Model 40 - SupersPort 286e with 40M byte (25ms) hard disk drive.

NEW OPTIONS

Model: ZA-180-85 **Battery Pack**, extra 48WHr NiCad with rapid-charge feature, 4.7 lbs.
ZA-180-64 **Expansion Card**, 2M byte RAM with EMS and extended memory capabilities
ZA-3040-EB **Expansion Chassis**, 3-slot XT-level with cable.

CURRENT OPTIONS

Model: ZA-181-7 **Adapter**, automobile cigarette lighter
ZA-180-69 **Battery Charger**, off-line for additional battery charging
ZA-180-65 **Battery Pack**, replacement 48WHr NiCad, 4.06 lbs.
ZA-180-83 **Carrying Case**, nylon with printer pocket
ZAS-180-54 **Drive**, external 360K byte 5.25" floppy with cable and 110/220 VAC power supply
ZA-180-66 **Expansion Card**, 1M byte RAM with EMS and extended memory capabilities
ZA-3034-NP **Keypad**, 24-key detachable numeric
TMP-200 **Manual**, technical
Z-416-SS **Numeric Co-processor**, 80C287
ZA-181-24 **Modem**, 2400/1200/300 bps internal Hayes-compatible.

The system will be available late 1989. The new peripherals will be available at the same time.

TURBOSPORT 386e

PRODUCT OVERVIEW

Editors note: We will not devote much space to this one as it is basically the same thing as the old TurbosPort 386, but faster and with a new VGA display. Most everything else is the same.

ZDS is introducing a system which others thought could not be done - a high end 20MHz 80386 portable system with 2+ hours of battery life and VGA video, the **"TurbosPort 386e."**

Now it not necessary to compromise power computing when traveling. Users such as financial analysts, application software developers, and business consultants require fast, powerful computing, not only in the office, but on the road as well... TurbosPort 386e brings power portable computing to those in need.

HIGHLIGHTS

* 20 MHz 80386 microprocessor, * 2M byte RAM standard, expandable to 3 MB, * 40M byte hard disk drive, * 1.4M byte floppy disk drive, * 640 X 480 Page White screen with 16 shades of grey VGA video, * 79-key detachable keyboard, * Standard 300/1200/2400 bps Autosync modem, * I/O interfaces standard: -9-pin RS232C AT compatible serial port -Centronics compatible parallel port, -RGBi port (VGA out), -Expansion bus connection. * 53WHr rapid charge battery for two hour charge time, 3.3 pounds, * 13.25" wide x 14.75" deep x 4.75" high, * 14.7 pounds without battery, * Attached handle for easy carry, * One year

carry-in warranty, * IQ warranty options, such as overnight, * MS-DOS 3.3 PLUS.

TurbosPort 386e Model 40 - TurbosPort 386e with 40M byte hard disk drive and internal Autosync modem

SYSTEM OPTIONS

ZA-3034-22 Adapter, 110/220 VAC
ZA-3034-HC **Battery Pack**, 53WHr NiCad, rapid charge
ZA-3034-CS **Carrying Case**, with pocket
CB-31-6 **Diagnostic**, Portable series
ZA-3034-EB **Expansion Chassis**, 3 slot box with cable
ZKB-2 **Keyboard**, 101-key
ZA-3034-NP **Keypad**, external numeric
TM-3034 **Manual**, technical
ZA-3034-ME **Memory Upgrade,** 1M byte
ZCM-1490-Z **Monitor,** FTM color VGA
ZA-3600 -CI **Numeric Co-processor**, 80387
TS-81-02 **Software**, LAP-LINK PLUS data transfer kit.

POWER SUPPLIES

The system includes an autosensing adapter/charger with detachable AC cable. This will switch automatically between 110 VAC or 220 VAC operation.

The battery is a rapid charge NiCad with a three hour charge cycle and can be recharged either connected to the system or detached from the system.

Another beneficial feature of battery operation is the ability of the system to automatically switch from AC to DC power in case of a power failure while operating under AC power. This gives the user a "built-in" uninterruptable power supply.

ANAPRO NEWS

Found a bit of time to write so here is another update on things happening my way (ANAPRO and personally). It is said that when it rains, it pours. Well, around here there has been a shower of happenings! After completing my graduate studies at UCSB this June, I started looking for appropriate work. Most of you must be aware that California is the land of high prices [and earthquakes! - ed]. The area where we now live, San Luis Obispo County, is a land of high prices and low wages! It is a very beautiful area from the standpoint of scenery, weather and proximity to metropolitan services. The problem is that it seems that a high proportion of Los Angeles and San Francisco residents would like to live here. The result is a large pool of professional people with few jobs to go around.

I enjoy teaching but was only able to secure a part-time position at the local community college teaching C programming and business math. In order to earn a bit more money for the family, I also took on a part-time position at another JC 48 miles away. Then suddenly, Cal Poly (a local campus of the state university) offered me a part-time position, which I gladly accepted. No sooner did I start teaching at Cal Poly when the county computer department offers me a full-time job as a programmer! And if this is not enough, Cal Poly offers me another part-time assignment and I am invited for an interview with a local manufacturer for a C programmer position. The end result of this activity is that I am now teaching at three schools and working as a programmer for the county. Some of the classes end in December and I may get time to catch my breath.

Don't get me wrong, I enjoy all the activity. I teach C programming, introduction to computers (MSDOS, WordPerfect, BASIC and Lotus 123), AC/DC electronics and business mathematics. And for the county, I am a COBOL programmer in an IBM mainframe environment. How is that for diversity. Incidentally, the IBM mainframe at the county is one of the latest and fastest IBM products, but the software on these systems is rooted in the 60s and is shockingly primitive. How slowly the mainframe world turns!

ANAPRO did not die in all this. To prove this, I am announcing a new release of PCFORM in the CPC package. The new version of the format program still requires the H37 controller, but it now includes IBM single sided as well as double sided formats. Those who have only single sided disk drives can now format their own PCDOS disks. To get an update, send your CPC serial number and $5 to cover shipping and handling.

Another item being made available to the Heath H8/H89 community is an HDOS to CP/M transfer utility. This one was written by Grant Gustafson and has been released for non-profit distribution. It is called CPH and includes C source code and a DOC file. I have uploaded the program to the QUIKDATA bulletin board and it is up to Henry if he makes it available in a partition [it's in the download file section -ed]. It will also be sent to The Staunch 8/89'er for the 8 bit library collection.

That is all the time I have for now, hope to get some more in by next month. - Pete Shkabara

BUG IN MS-DOS 3.3+

Just a note to let you and your subscribers know of a bug in the Zenith MS-DOS 3.3+. This came about at my place of work, and has been verified by the local Heath/Zenith store.

The BACKUP utility for MS-DOS 3.3+ has a bug that creates an invalid backup disk only during the month of October. In the BACKUPID.@@@ file, the current month is saved as 13 rather than 10, resulting in an invalid backup disk when RESTORE attempts to restore the backup.

There are a couple of temporary fixes for this problem: 1. Set the date on the computer to a month other than October when creating the backup. 2. Modify the BACKUPID.@@@ file to correct the problem. This would be required in order to restore files from a backup created during October.

The following will patch the BACKUPID.@@@ file and needs to be performed on each backup disk: 1. Using the ATTRIB command, remove the read-only attribute on the file BACKUPID.@@@ C> ATTRIB -R A:BACKUPID.@@@ 2. Using DEBUG, read in the file and modify the contents using the following: C> DEBUG A:BACKUPID.@@@, -E105 OA 09, -W, -Q. The two numbers after the E105 entry in debug refer to the month and day (of the backup) entered in HEX respectively. The example is for October 9th. 3. Using the ATTRIB command, place the read-only attribute back on the file BACKUPID.@@@ C> ATTRIB +R A:BACKUPID.@@@

By dumping the contents of the BACKUP.COM program, I determined that it was written in the C Programming Language. The file was evidently opened in the text mode that translates all Linefeed (OxOA) characters into Carriage Return and Linefeed pairs (OxOD OxOA). Therefore, when a Linefeed character (October = OxOA) is written, it is translated. The file should have been opened in binary mode.

Enclosed please find a copy of a program that I created which will automate the patch by prompting for each backup disk. I can supply the program in executable form to those that need it. Requests can be sent to me along with a disk and $1.00 to cover postage. Christopher S. Simmons/ 1832 NW Grant Circle/ Corvallis, OR 97330 (503) 757-2871.

MISCELLANEOUS BITS

* You often see in the Zenith PC owners manuals that certain slots are **ZDS proprietary slots**. Seems that they are all

electronically the same, but only mechanically proprietary. If one removes the metal mounting bracket on a card, then it will usually fit. The slots are usually taller than the rest.

* Ralph Shepard purchased a **Magnovox color monitor for his Z100 computer**. He noticed an **annoying noise** coming from his Z100 after that. He writes "I discovered that moving the Magnovox Monitor off the top of my H/Z100 far enough cut the noise completely! I found a piece of perforated aluminum and covered the top of the computer with it. This was enough to cut the noise so that it is not noticeable, allowing the monitor to sit on top of the H/Z 110.

* Now that Zenith has finally caught up and has their laptops with the VGA displays, NEC just introduced their **laptop with a color LCD display**. Problems consist of adding $2000 to the computer cost and consuming much more power.

TECH FORUM

WH-64 MOD TO USE 64K DRAM CHIPS

This brief procedure describes the necessary wire additions to the Heath H8 WH-64 memory card to enable the use of 64K memory chips. It was submitted by Ronald West, to whom we owe our deepest thanks.

The Heath WH8-64 memory card used four banks of 8 16K dynamic RAM chips, for a total of 32 chips. When this card was introduced, the 64K chips did not exist. You can now save on power and heat dissipation by installing 8-64K dynamic RAM chips instead, with little modification and no wire cuts. Memory chips which can be used include any of the generic 4164 DRAMS made by a number of manufacturers. To implement this change, follow this procedure:

a) Remove all existing Ram chips from the circuit board.

b) Remove all Bank selection switches except Bank 0. Turn all 8 positions of bank 0 to the ON position. If you do not have 0 orig. option then you may have to leave switch 1 on the Bank 0 selection switch in the OFF position (not sure as I have 0 orig.).

c) Install the eight 2164 or 4164 DRAM chips in the U25 thru U32 (Bank 0) positions.

Make the following wiring additions:

U32-9 TO U31-9	U31-9 TO U30-9	U30-9 TO U29-9
U29-9 TO U28-9	U28-9 TO U27-9	U27-9 TO U26-9
U26-9 TO U25-9	U25-9 TO U53-18	U53-18 TO U54-2
U54-2 TO U55-2	U53-2 TO U61-8	U54-3 TO U62-3
U55-3 TO U62-5		

Test the board as follows:
Install the memory board in the H8 and turn it on. Assuming you get the customary BEEP indicating the processor is running, start the memory test routine which is in ROM. If you do not get the beep, turn off power immediately, and double check all your wiring using an ohmmeter if necessary. Check that all RAMs are installed properly with no pins bent out or under the chip.

CLASSIFIEDS

Classified ads can be placed in this section free of charge by any H-SCOOP subscriber. Non-subscriber's ads are placed at $10 per insertion in advance. Ads to appear more than once must be submitted separately each month publication is desired - maximum 2 months with 2 month wait. When placing ads, try to keep in mind the 'devaluation' of computers and components and adjust your price accordingly.

FOR SALE--Zenith 181-93 Lap Top in best condition with carrying case, extra battery (unused) and Brooklyn Bridge with cables and manuals. It was purchased to interest older offspring in computers and remained virtually untouched. Would like $1,000. Call Bob Stratton (802) 436-2548 early morning or evening or write: Box 13/ Hartland Four Corners, VT/ 05049.

FOR SALE--Anderson Jacobson printers (2) Model AJ831/832 Daisy wheel. One working, one not. Extra ribbons and daisy wheels. One tractor feed. $300 plus shipping. Will deliver in New York state. Abe Dweck/ 12 West Madison/ Johnstown, NY 12095/ (518) 762-5284

WANTED--New or used H/Z161 type keyboard for a reasonable price. Must be in good working order. Robert Montgomery/ 5026 Camilla Rd/ Madison, WI 53716. [Editors note: If folks have these left over from the 151, 158, 159 from the "101" keyboard upgrades, contact Quikdata as we may be interested in purchasing a few for our used stock pile.

FOR SALE--Z-386 with 1 meg RAM, Z-449 video board, 80287 numeric coprocessor, 1.2 meg floppy, 360K floppy, floppy/hard disk controller, Zenith 1240 monitor $1750. Z-248 with 640K RAM, Z-409 video board, 2-360K floppies, floppy/hard disk controller, Zenith 1470 monitor $950. **Upgrade to a Z-248**. CPU, I/O, RAM, Backplane boards, power supply, cabinet base, AT keyboard, 640K RAM $475. Without power supply, RAM board or 640K $375. With 2 completely populated RAM boards (640K + 2.5 meg) $775. Jim Cunningham/ 1563 Van Wyck Road/ Bellingham, WA 98226 (206) 733-8820 or 734-0461.

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DECEMBER issue deadline--November 15th

QUIKDATA is the parent company of H-SCOOP.

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(414) 452-4345 Bulletin Board: 300/1200/2400/9600 (Hayes) auto-baud recognition. Character width of 10 which includes start bit, 8 data bits (7 for ASCII character + 1 parity), and one stop bit. The parity can be omitted and then transmission of graphics and binary data is possible. 8 data bits allows secure error-checking data transfer methods such as XMODEM and YMODEM to be used.

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SPECIAL BACK ISSUE DEAL Purchase the current year at the regular price of $24 for the 12 issue year starting Jan '89 (subscription will expire with Dec '89) and receive all available back issues for an additional $20 (USA prices).

Input for H-SCOOP can be in written format or any H/Z disk format. For longer articles or reports, we appreciate disk (preferably PC format, but we can convert) with standard text (ASCII) format, sent as "unformatted" text.

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